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(54) Synchronous system for parallel data scrambling.

(57) Of the type formed by a pseudorandom code generator and a block that performs the synchronizing and the scrambling in parallel which, in addition to the initialization signal, receives as inputs the set of parallel input data and the codes generated by the code generator, and produces the scrambled parallel data at the output.

The modulo-2 adders used in the feedback loops of the pseudorandom code generator have only two inputs, and the outputs of the code generator in the parallel working time slots tp and tp + 1 are related through the expression:

$$C_{tp+1} = T^{n}(nxn).C_{tp}$$

simplifying the result accordingly.

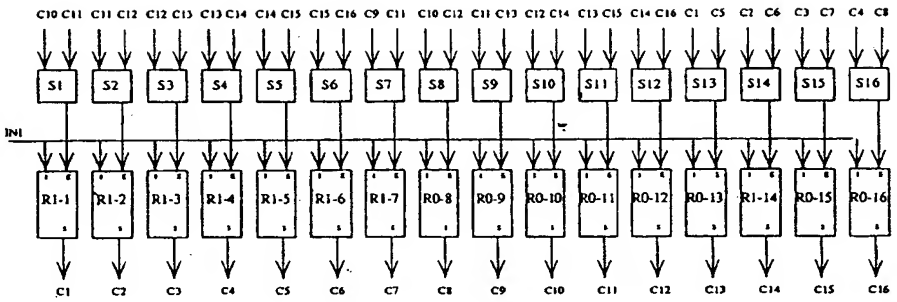
C10 C11 C11 C12 C12 C13 C13 C14 C14 C15 C15 C16 C9 C11 C10 C12 C11 C13 C12 C14 C13 C15 C14 C16 C1 C5 C2 C6 C3 C7 C4 C8
S1 S2 S3 S4 S5 S6 S7 S8 S9 S10 S11 S12 S13 S14 S15 S16
IN1
R1-1 R1-2 R1-3 R1-4 R1-5 R1-6 R1-7 R0-8 R0-9 R0-10 R0-11 R0-12 R0-13 R1-14 R0-15 R0-16
C1 C2 C3 C4 C5 C6 C7 C8 C9 C10 C11 C12 C13 C14 C15 C16

Fig. 2

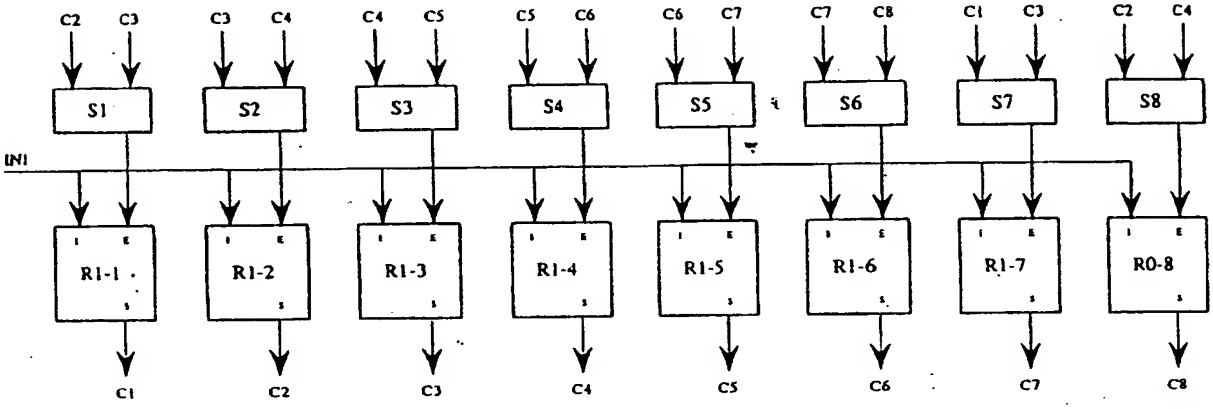
C2 C3 C3 C4 C4 C5 C5 C6 C6 C7 C7 C8 C1 C3 C2 C4
S1 S2 S3 S4 S5 S6 S7 S8
IN1
R1-1 R1-2 R1-3 R1-4 R1-5 R1-6 R1-7 R0-8
C1 C2 C3 C4 C5 C6 C7 C8

Fig. 3

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EUROPEAN SEARCH REPORT

Application Number

EP 92 11 4268

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	EP-A-0 397 079 (ALCATEL N.V.) * page 2, line 4 - page 2, line 11 * * page 3, line 10 - page 3, line 16 * * page 5, line 50 - page 5, line 57 * * page 9, line 2 - page 9, line 24 * * page 11, line 5 - page 11, line 36 *	1-3	H04L25/49
X A	US-A-4 965 881 (DILLEY) * column 2, line 62 - column 3, line 64 * * column 5, line 40 - column 6, line 20 *	1 2,3	
A	IEEE JOURNAL OF SOLID-STATE CIRCUITS, VOL 24, NUMBER 3, JUNE 1989 pages 747 - 751 J. MCFARLAND '1-Gword/s Pseudorandom Word Generator' * page 747, left column, line 1 - page 747, left column, line 8 * * page 747, left column, line 24 - page 747, right column, line 5 *	1-3	
A	AT & T TECHNICAL JOURNAL, 1986 vol. 65, no. 5, NEW YORK US pages 123 - 136 DOOWHAN CHOI 'PARALLEL SCRAMBLING TECHNIQUES FOR DIGITAL MULTIPLEXERS' * page 123, right column, line 8 - page 123, right column, line 15 * * page 129, right column, line 15 - page 130, left column, line 10 *	1-3	TECHNICAL FIELDS SEARCHED (Int. Cl.5) H04L

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	26 FEBRUARY 1993	CANALI F.

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